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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/892,543	06/28/2001	Takaharu Kawahara	210349US0	5132

22850 7590 05/04/2004

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EXAMINER

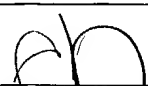
REDDICK, MARIE L

ART UNIT PAPER NUMBER

1713

DATE MAILED: 05/04/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b> 09/892,543	<b>Applicant(s)</b> KAWAHARA ET AL.	
	<b>Examiner</b> Judy M. Reddick	<b>Art Unit</b> 1713	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE  $\frac{3}{4}$  MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 05 February 2004.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1-18 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-18 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

**DETAILED ACTION**

**Response to Amendment**

1. Applicants' Amendments to the claims filed 02/05/04 have been entered, considered and scanned into the application file.

**Claim Rejections - 35 USC § 112**

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claims 1-18 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

The recited "wherein said alcohol-based solvent is deoxidized in advance" per claims 1 and 4 constitutes indefinite subject matter as per the metes and bounds of such engender indeterminacy in scope, i.e., it is not readily ascertainable as to the exact stage that the oxygen content reduction of the alcohol-based solvent takes place, i.e., in advance of the copolymerization, in advance of the solution being introduced into a recovery column but subsequent to copolymerization or else.

**Claim Rejections - 35 USC § 102**

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject

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matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 1-15 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Blumberg et al (U.S. 3,513,142).

Blumberg et al disclose a method for producing a polyvinyl alcohol product of improved color wherein a vinyl ester of a 2 to 4 carbon aliphatic monocarboxylic acid, or a mixture thereof with a copolymerizable monomer, is polymerized continuously in a polymerizing zone fed by a non-aqueous stream of the vinyl ester monomer or such mixture (or a solution thereof in a solvent such as a 1-4 carbon aliphatic alcohol, viz. methanol), which stream has been purged with an inert gas such as nitrogen to remove dissolved oxygen therefrom, and the resulting polymer is alcoholized to obtain a polyvinyl alcohol product of improved color and wherein purging of the monomer feed stream with the inert gas reduces the dissolved oxygen content to not more than about 30 ppm and preferably to not more than about 10 ppm. Polyvinyl alcohols are produced in accordance with the invention by a process wherein dissolved oxygen is continuously removed from a non-aqueous stream of a monomeric vinyl ester of a 2 to 4 carbon aliphatic monocarboxylic acid, or a mixture thereof with a monomer of the group consisting of: (a) the acrylate and methacrylate esters of 1 to 4 carbon aliphatic alcohols; (b) acrylic and methacrylic acids; (c) N-vinyl pyrrolidone; and (d) 2 to 20 carbon alpha-olefins, viz., ethylene, or a solution of such ester or such mixture thereof in a solvent which is inert towards the polymerization initiator to be used, by purging said stream with an inert gas. The purged stream is continuously fed to a polymerization zone wherein part of the monomer or monomers is polymerized in the presence of a free radical polymerization initiator. A stream comprising unpolymerized monomer(s) and the resulting polymer is continuously withdrawn from the polymerization zone and the unpolymerized monomer(s) are separated from the polymer component of the withdrawn stream, which polymer component is then alcoholized with methanol or ethanol in the presence of an acidic or an alkaline catalyst to obtain a polyvinyl

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alcohol product of improved color. Generally, the amount of the comonomer employed with the vinyl ester monomer to produce such copolymers will be limited so as to yield a copolymer containing not more than about 6% of the comonomer. The aforementioned copolymers can be readily alcoholized by conventional alcoholysis. See the Abstract, cols. 3-8, the Runs and claims of Blumberg et al. Blumberg et al therefore anticipate the instantly claimed invention with the understanding that the claimed method for producing an ethylene-vinyl acetate copolymer overlaps in scope with the method for producing a polyvinyl alcohol product of improved color per the disclosure of Blumberg et al. Even if it turns out that the inventive claims are not anticipated by Blumberg et al then, it would have been obvious to the skilled artisan to extrapolate, from the disclosure of Blumberg et al, the precisely defined method for producing an ethylene-vinyl acetate copolymer per claims 1 & 4, as per such having been within the purview of the general disclosure of Blumberg et al and with a reasonable expectation of success.

#### Claim Rejections - 35 USC § 103

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

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9. Claims 16-18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Blumberg et al (U.S. 3,513,142).

The disclosure of Blumberg et al for what it teaches and as applied to claims 1-15 as stated in the rejection supra. Further, the disclosure of Blumberg et al differs basically from the claimed invention as per the absence of an embodiment directed to the specifically defined (saponified)ethylene-vinyl acetate copolymer, in terms of ethylene content and melt index. However, Blumberg et al teach that the amount of comonomer employed with the vinyl ester, viz., vinyl acetate, is generally not more than about 6 wt.% of comonomer, which is a necessary implication that ethylene amounts in excess of "about 6 % by weight, including the claimed content of ethylene, are contemplated and would have been operable with the scope of patentees invention and with a reasonable expectation of success, "generally" being relative and not absolute. Moreover, the use of any commercially available ethylene-vinyl acetate copolymer in lieu of the vinyl acetate copolymer(s)of Blumberg et al would have been obvious to one of ordinary skill in the art and with a reasonable expectation of success. Criticality for such, clearly commensurate in scope with the claims, not have been demonstrated on this record.

#### Response to Arguments

10. Applicant's arguments filed 10/30/03 have been fully considered but they are not persuasive.

Relative to Blumberg et al--- The crux of Counsel's arguments appears to hinge on the stage at which deoxidation of the alcohol-based solvent occurs, i.e., Counsel argues that Blumberg et al fail to disclose or suggest that an oxygen concentration in said alcohol-based solvent is not more than 60 ppm when said alcohol-based solvent is used in recovering said unreacted vinyl acetate which would necessary translate to deoxidizing after "copolymerization" but in advance of "a recovery column introduction of solution of ethylene-vinyl acetate copolymer". The bottom line is that the stage at which deoxidizing of the alcohol-based solvent takes place is not limited to that for which Counsel argues and consequently, the process of Blumberg et al which includes deoxidizing in advance

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of copolymerization does anticipate the claimed method. Counsel is arguing criticality for something not even in the claims. Moreover, from all indications, the deoxidizing of the alcohol-based solvent appears to have taken place in advance of copolymerization in Runs 1 and 2(pages 7-9 of the instant specification). The recited "wherein said alcohol-based solvent, the vapor of which is introduced into said recovery column, is deoxidized in advance of being introduced into said recovery column" per claims 1 & 4 simply does not preclude deoxidation before polymerization, i.e., there is absolutely nothing in the claims that translates to "deoxidation" taking place in advance of being introduced into said recovery column but after polymerization. As a matter of fact, claims 8 and 9 bear witness to the Examiner's conclusions.

As to Counsel's theory that the methanol used in the recovery process having no direct relationship with the PVAc-based polymer production, Counsel is cordially directed to col. 4, lines 70-75 to col. 5, lines 1+ wherein patentee clearly teaches, with respect to the purging operation, that there is a direct relationship between the polymerization stage and the final alcoholysis stage.

As to the comparative Runs, such is insufficient to confer patentability under 35 USC 102.

#### Conclusion

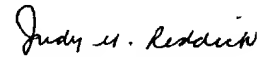
11. THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).


A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Judy M. Reddick whose telephone number is (571)272-1110. The examiner can normally be reached on Monday-Friday, 6:30 a.m.-3:00 p.m..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Wu can be reached on (571)272-1114. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

  
Judy M. Reddick  
Primary Examiner  
Art Unit 1713

JMR   
04/30/04